

METHOD FOR STORING, RETRIEVING, AND INDICATING A PLURALITY OF ANNOTATIONS IN A DATA CELL

RELATED INVENTIONS

The present invention is related to the following inventions, all assigned to the assignee of the present invention:

System Control Structure of a Hospital Information System and Method of Using Same, having Ser. No. 07/116,614, and filed on Nov. 3, 1987, now abandoned;

Clinical Task List with Charting Through the Task List onto Underlying Form and Automatic Updating of Task List, having Ser. No. 07/268,822, and filed on Nov. 7, 1987, now abandoned;

Clinical Task List with Charting onto Underlying Form and Automatic Updating of Task List, having Ser. No. 07/268,323, and filed on Nov. 7, 1987, now abandoned;

Method for Generating Patient-Specific Flowsheets by Adding/Deleting Parameters, having Ser. No. 07/116,611, and filed on Nov. 3, 1987, now U.S. Pat. No. 4,878,175;

Forms Manager, having Ser. No. 07/322,740, and filed on Mar. 13, 1989, now abandoned;

A Method for Displaying Information from an Information Based Computer System having Ser. No. 07/407,979 and filed on Sep. 15, 1989, now pending;

Spreadsheet Cell having Multiple Data Fields, having Ser. No. 07/408,166 and filed on Sep. 15, 1989, now abandoned;

A Method for Displaying Information from an Information Based Computer System, having Ser. No. 07/407,836 and filed on Sep. 15, 1989, now pending;

Electronic Data Storage Interface, having Ser. No. 07/408,178 and filed on Sep. 15, 1989, now pending;

Method for Updating Data in a Database, having Ser. No. 07/408,167 and filed on Sep. 15, 1989, now abandoned;

Method for Storing a Transaction in a Distributed Database System, having Ser. No. 07/408,164 and filed on Sep. 15, 1989, now pending;

A Method of Forming a Spreadsheet Display, having Ser. No. 07/407,972 and filed on Sep. 15, 1989, now pending; and

Data Storage Audit Trail, having Ser. No. 07/409,230 and filed on Sep. 15, 1989, now abandoned.

FIELD OF THE INVENTION

The present invention relates, in general, to a method for annotating data objects and, more particularly, to a method for storing and retrieving data object annotations.

BACKGROUND OF THE INVENTION

The present invention relates to an automated records management system. Such an automated system has utility, for example, in a hospital based patient record keeping system. Patient record keeping systems are used for maintaining a wide variety of separate, often interrelated, types of medical records concerning patients.

Hand written patient record keeping systems have evolved through many years of careful refinement and enhancement into systems which maintain a detailed manual record of medical information concerning each patient. To meet the needs of different hospital entities

(such as doctors, nurses, pharmacy, accounting, laboratory, etc.) a manual record keeping system often requires that one piece of information be entered into multiple records.

In a typical manual patient record keeping system a patient chart, usually in the form of a notebook, is maintained at the nursing station for each patient. The notebook is divided into a plurality of individual tabbed sections, such as Physicians Orders, Kardex, Nursing Care Plan, Nursing Assessment, and Laboratory.

Each of the above sections is further subdivided into a number of forms. The forms are those which are appropriate to the individual patient and/or such patient's physician. For example, within the Laboratory section there may appear forms for chemistry, hematology, blood gas, and microbiology.

In addition, a "flowsheet" chart is usually kept at the patient's bedside. On the "flowsheet" chart there are individual areas for medication records, vital signs, intake/output, laboratory results, and other categories which are dependent upon the patient's affliction, such as intravenous (IV) drips.

Referring in particular to nursing functions, annotations to charts and/or nursing progress notes are made manually. Typically, brief notations are jotted down in various places through-out a shift. Sometime during the shift, typically at the end, the nurse makes a full notation into the nursing progress notes based on the brief notations or remembered items. This process can be very inefficient since notations may be forgotten or not copied appropriately.

A further problem is caused by the amount of time required to make such annotations. In addition to transcribing the annotation to the nursing progress notes, it may also be necessary to distribute the notations to other forms, such as a medication form.

One way of replacing the manual charting system is with electronic databases such as described in the patents and applications referenced in the preceding Related Inventions section. Here a visual display is provided in much the same configuration as present manual charts. Each display provides a time/variable spreadsheet comprising a plurality of data cells.

A database is a collection of logically organized data items. Generally, a database is organized into tables (or pages) which may contain one or more records (or rows). The records are comprised of one or more fields which contain the data.

In this type of electronic database, a cell in a flowsheet may have a form or report associated with it which expands on the information in the cell. This form may be comprised of various attributes obtained from one or more object instances of one or more object classes. This is similar to "hypertext" which is a process whereby a word or symbol in one document is related, or linked, to another document. This linking can continue from one document to the next in an unlimited manner. An example of this is Apple's® Hypercard® software.

An object instance is the instantiation of an object class. An object class is similar to a type (as used in programming languages) in that it defines a structure and a set of processing rules. The information for these flowsheet cells and the underlying forms, comes from a database containing various patient records. Examples of forms and records are found in copending patent applications "A Method of Forming a Spreadsheet Dis-